

**REMARKS****Drawings**

The drawings were objected to under 37 CFR 1.83(a) for not showing every feature of the claims. Specifically, the Examiner requested that the drawings show the “subchannel divider,” the “timing generator,” the “signal,” and the “signal combiner.” FIG. 1 already shows the subchannel divider (reference numeral 24) and the timing generator (reference numeral 23). A person of ordinary skill in the art would understand that the arrows in FIG. 1 are signals. The boxes labeled as reference numerals 26a-26d, which includes the signal combiner (note multiple input arrows and one output arrow), have been amended to explicitly indicate that it combines signals. Therefore, all the requested elements are shown in FIG. 1. No new matter has been added.

**Specification**

The Specification has been amended to update the reference to Application Serial No. 09/438,865 in accordance with the Examiner’s request.

**Claim Rejections – 35 USC § 112**

Claims 11-12 and 22-23 are rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 11, the antecedent basis problem has been corrected by changing “the controller” to “a controller,” “the tuners” to “tuners,” and “the frequency-separated periodic signal” to “frequency-separated periodic signals.” The Examiner also pointed out that the language of Claim 11 sounds like an attempt to limit a subject matter belonging to a receiver. Claim 11 has been rephrased to shift the emphasis to the frequency-separated periodic signals from the controller. Applicant believes that these amendments overcome the rejection under 35 USC § 112 for Claims 11 and 12.

In Claim 22, the phrase “on one satellite” has been amended to “to one satellite” for clarification, in accordance with the Examiner’s suggestion. This amendment overcomes the rejection under 35 USC § 112 for Claims 22 and 23.

**Claim Rejections – 35 USC § 103**

Claims 1-4, 9, 10, 18-21, and 34 were pending when last examined, all of which stand rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent No. 6,424,831 to Schiff (“Schiff”). Applicant respectfully requests reconsideration of these claims in light of the following remarks.

First, a 103 rejection based on Schiff is improper. A 35 USC 103 rejection is based on 35 USC 102(a), 102(b), 102(e), etc. depending on the type of prior art reference used and its publication or issue date [MPEP 2141.01]. Applicant respectfully submits that Schiff is not a proper prior art reference because it does not fit under any of the required 102 sections. This application claims priority from a CIP application of U.S. Patent No. 6,154,501 that was filed on February 3, 1999. February 3, 1999 precedes the filing date of Schiff, which is March 30, 1999. Applicant acknowledges that Schiff might be a proper prior art reference under 35 USC 102(e) for any new matter in the CIP application that was not disclosed in the application filed on February 3, 1999. However, in this case, substantially all of the subject matter claimed in the pending claims were disclosed in U.S. Patent No. 6,154,501. Thus, Schiff is not a proper prior art reference for the purpose of a 103 rejection.

Second, even if Schiff were a proper reference, the pending claims are patentable because Schiff does not teach every element of the rejected claims.

Claims 1, 9, 18 and 34 are distinguishable over Schiff at least because they recite, “a subchannel divider for transforming the original ... signal into the plurality of ... subchannel signals ....” While Schiff discloses that a frequency band is divided up into frequency channels and each of the frequency “channels” are further made up of frequency division multiplexed orthogonal “subchannels” (col. 6, line 50 – col. 7, line 2), this is merely a description of the channel architecture and does not suggest that the original signal is transformed in any way to be transmitted over these subchannels. In contrast to Claims 1, 9, 18, and 34, which *transforms* an original signal into multiple subchannels, Schiff simultaneously transmits data for different users via different subchannels without transforming the original signal into multiple signals. Since Schiff’s system does not require transformation of data, Schiff does not teach or suggest a subchannel divider.

Applicant would also like to note that one of the goals of the invention is to allow users to transmit data to small receiving antennas using low power transponders. As explained in the Background section of the application, the low power transponder-small receiving antenna combination typically does not result in signals with acceptable signal-to-noise ratio. This invention overcomes the problem by transforming the original signal into a plurality of subchannel signals that each have a lower bit rate than the original signal. This way, each of the subchannel signals can be transmitted to the small receiving antenna within an acceptable signal-to-noise ratio. As described in the specification, the transmitted signals are then combined at the receiving end to produce a faithful replica of the original signal. The goal of Schiff's system is not related to allowing signals to be transmitted to small receiving antennas via low power transponders. Schiff's system transmits multiple signals over multiple subchannels, wherein each subchannel carries data for one particular user. Some of the subchannels that are used for "paging" carry data that is sent to all users, and these paging subchannels tend to get saturated when there are a lot of pages. Schiff's system pertains to this paging function and does not even concern with low power transponders or small receiving antennas.

For the above reasons, Claims 1, 9, 18, and 34 are patentable over Schiff. Claims 2-4, 10, and 19-21 depend from Claims 1, 9, and 18, respectively, and are patentable over Schiff for at least the same reasons.

### Double Patenting

Claims 1-3, 9-12, 18-23, and 24 were provisionally rejected under 35 USC § 101 as claiming the same invention as that of claims 1-3, 9-12, 18-23, and 34 of copending Application No. 10/230,661. During a telephone conversation on May 6, 2003, the Examiner stated that this Double Patenting rejection is moot because Claims 1-3, 9-12, 18-23, and 34 were canceled in the copending Application, which was filed with new claims in an accompanying Preliminary Amendment.

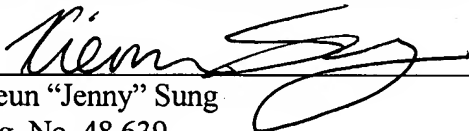
**Conclusion**

Based on the above amendments and remarks, it is respectfully submitted that Claims 1-4, 9-12, 18-23, and 34 are in condition for allowance. If the Examiner wishes to discuss any aspect of this application, the Examiner is invited to telephone Applicants' undersigned attorney at 650-320-7536. Any fee due for this Amendment may be charged to Deposit Account No. 07-1896.

Respectfully submitted,

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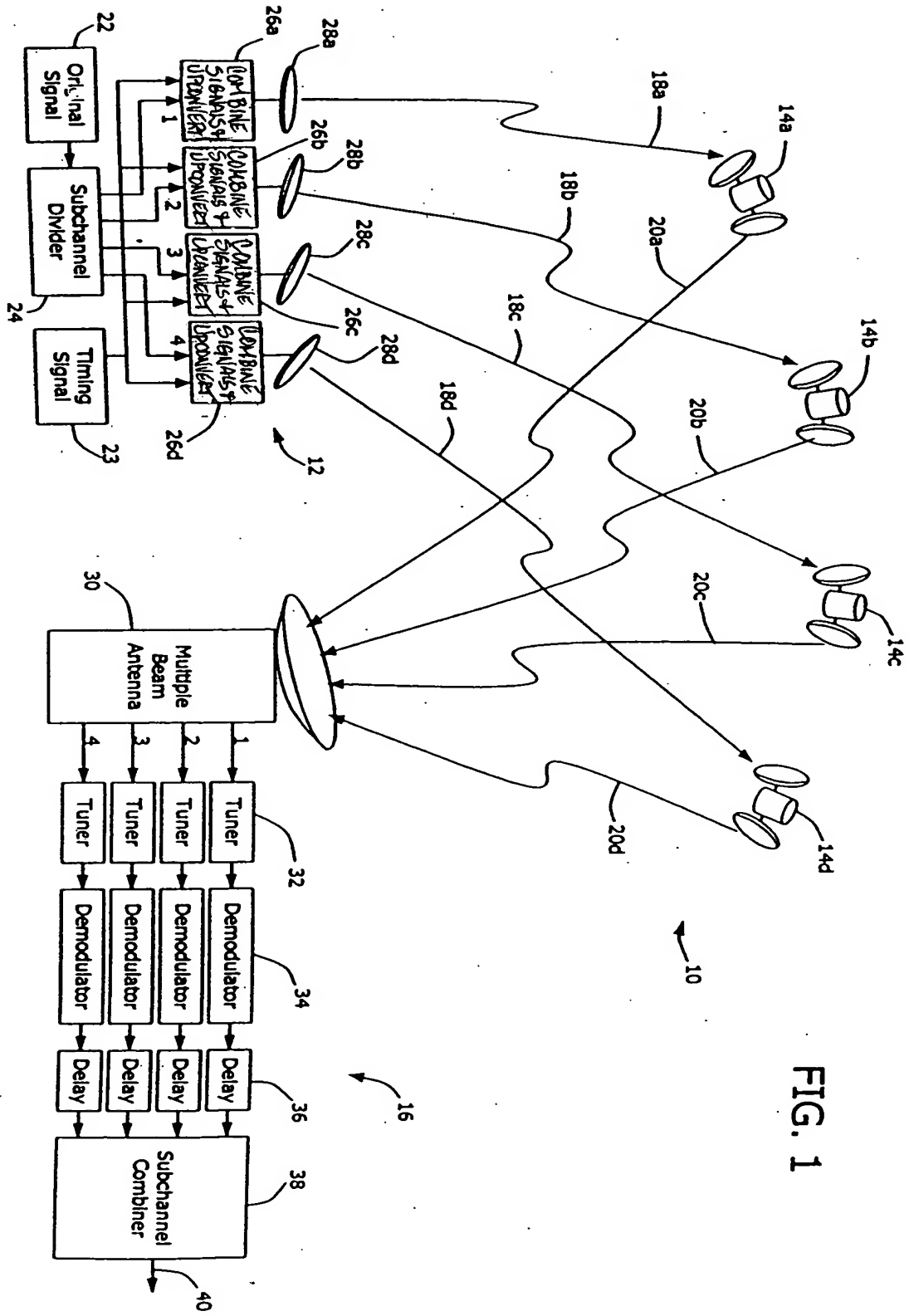


FIG. 1